

**ABSTRACT****Improved session initiation protocol (sip)**

Modifications to SIP are made which significantly extend the functionality of SIP for example by allowing a service for automatically setting up multi-media conferences to be easily provided. SIP messages are associated with computer software code such as Java byte code, Java applets or mobile autonomous software agents. An example of a mobile autonomous agent is a Java mobile agent. This computer software code may be contained in the body of a SIP message or an address indicating where the computer software code is located is stored in the SIP message. SIP clients are arranged such that on receipt of a SIP message that has been associated with computer software code, that code is executed by a processor associated with the SIP client. For example, in the case that Java applets are contained in a SIP message these are executed by a Java Virtual Machine associated with the SIP client. If a Java mobile agent is contained in the SIP message this executes on a Java Mobile Agent Virtual Machine associated with the SIP client. In one example, such computer software code must always be executed by the processor associated with the SIP client before that SIP client carries out any other actions related to the SIP message. Preferably an indicator is put into the header of a SIP message to indicate that it has been associated with computer software code, and SIP clients are arranged to detect the presence of such indicators. An application programming interface is created in order that the computer software code may control the SIP client and/or any processor associated with that SIP client. In one example, computer software code is associated with SIP messages in order that a service for automatically setting up multi-media conferences is provided.

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